

ON THE GENERA OF THE CLEONYMIDÆ.

By WILLIAM H. ASHMEAD.

The *Cleonymidæ* were first separated as a family by Francis Walker, in 1837; but he did not properly define the family or really appreciate the structural characters that separate it from allied groups, since of the ten genera recognized by him as belonging to it, he included no less than five genera which belong to the Encyrtidæ (*Eupelminæ* and *Encyrtinæ*), and one of these, *Macroneura* Walker, was based upon a male *Eupelmus*.

Still later, or in 1856, Dr. Arnold Förster recognized this family under the name *Cleonymoidæ* and defines five new genera, viz., *Tricoryphus*, *Heydenia*, *Plutothrix*, and *Tetracampe*.

Förster correctly excluded from the family *Stenocera* Walker, *Calosoter* Walker, and *Ericydnus* Haliday, but included three other genera not included by Walker, namely, *Trigonoderus* Westw., *Platynochaetus* Westw., and *Merostenus* Walk.

Tricoryphus Förster is, as I have already shown, the wingless female of *Cerocephalus* Westw., and it, as well as *Plutothrix*, *Tetracampe*, and *Platynochaetus*, does not belong to the family, the first named belonging to the *Spalanginæ*, the others to the *Entedonidæ*.

The family *Cleonymidæ*, as now restricted, may be readily distinguished by the large triangular mesepisternum, by having either the anterior or posterior femora much swollen and sometimes toothed, or both are swollen, with the hind femora dentate or toothed beneath; if the legs are slender, the hind pair are very long, their coxæ long, cylindrical, while the radius in the front wing is very short and the postmarginal is very long, extending to the apex of wing (*Pelecinella*).

The family comes very close to the *Encyrtidæ*, and especially to the subfamily *Eupelminæ*, but the species may always be distinguished from any in this family by the absence of a movable or saltatorial middle tibial spur, the impressed mesopleura, the non-impressed mesonotum, and usually by the much longer marginal vein.

I have recognized four subfamilies, but one of these, the *Colotrechninæ*, is, however, provisional or supposititious, since it is based upon Thomson's genus *Colotrechnus*, which is unknown to me, and may or may not belong here.

The following tables will aid the student in recognizing the subfamilies and genera:

FAMILY LXVI.—CLEONYMIDÆ.

TABLE OF SUBFAMILIES.

Mesonotal furrows not at all indicated..... 3

Mesonotal furrows more or less distinct.

Abdomen longly petiolated..... 2

Abdomen sessile, or subpetiolate, never longly petiolate.

Posterior femora much swollen and usually toothed or finely denticulate beneath (as in *Chalcis*, *Smicra*, &c.); abdomen usually depressed, the ovipositor not exerted; antennæ at the most 11-jointed. Subfamily I. Chalcedectinæ.

Posterior femora not much swollen and very rarely toothed beneath, the anterior femora usually more or less enlarged, sometimes very much swollen and often excised or dentate beneath toward apex; ovipositor often, but not always, exerted; antennæ 11-13-jointed.

Subfamily II. Cleonyminæ.

2. Body of abdomen strongly compressed, sword-shaped, ending in a long ovipositor, the basal sheaths very broad; all legs slender, the hind pair very long, their coxæ long, cylindrical; front wings with the marginal and postmarginal veins very long, the latter extending to tip of wing, the stigmal vein very small, subsessile; antennæ 11-jointed, inserted close to the mouth Subfamily III. Pelecinnellinæ.

3. Abdomen subsessile, compressed, conically produced toward apex; front wings with the postmarginal and stigmal veins very short, the knob of the latter nearly sessile, rounded; posterior tibiæ compressed, the hind margin denticulate.

Subfamily IV. Colotrechninæ.

SUBFAMILY I.—CHALCEDECTINÆ.

TABLE OF GENERA.

Hind femora much incrassated, minutely denticulate beneath..... 2

Hind femora much incrassated and armed beneath with large distinct teeth.

Hind femora with several teeth, fourth segment the largest, transversely striated or aciculated..... 1. *Chalcedectes* Walk.

= *Polychroma* Westw.

= *Polychromatium* D. T.

Hind femora with three large teeth..... 2. *Cleptimorpha* Walk.

Hind femora with one large tooth towards apex, followed by three or four smaller teeth 3. *Chalcidiscelis** Ashm., n. g.

* Type *Chalcidiscelis Koebelei* Ashm. MS. from Australia.

2. Antennæ 10-jointed.....4. Amotura Cameron.
Antennæ 11-jointed.

Abdomen ovate or conic-ovate.

Abdomen not depressed, convex beneath, the fourth segment longer than the third, the latter a little longer than the fifth; stigmal vein not short; metathoracic spiracles reniform.

5. Agamerion Hal.

Abdomen depressed, flat above and beneath, the third and fourth segments short, united shorter than the fifth; stigmal vein rather short; metathoracic spiracles oval.

6. Euchrysia Westwood.

SUBFAMILY II.—CLEONYMINÆ.

TABLE OF GENERA.

Females.

- Anterior femora less distinctly swollen and not excised dentate beneath 6
Anterior femora much swollen, or excised dentate beneath.
Pronotum not much narrowed and always wider than long.... 2
Pronotum much narrowed and lengthened, longer than wide.
Anterior femora greatly swollen but not excised dentate beneath; abdomen conically produced, but not much longer than the head and thorax united.
7. Heydenia Först.
Anterior femora much swollen, and excised dentate beneath; abdomen much elongated, conically produced.
8. Lycisca De Romand.
2. Eyes bare..... 5
Eyes pubescent.
Ovipositor very long..... 3
Ovipositor not prominent, at the most subexserted.
Abdomen conic-ovate or conically lengthened and strongly carinated along the sides.....9. Epistenia Westw.
= Dasyglènes Ashm.
Abdomen subrotund, oblong, or conic-ovate, the sides rounded, not carinated.
Labrum inconspicuous, hidden..... 4
Labrum conspicuous.
Abdomen conic-ovate....10. Cleonymus Latr.
Abdomen subrotund; antennæ 12-jointed, with 3 ring-joints.....11. Micradelus Walk.
3. Abdomen with the first and fifth segments the longest; antennæ 11-jointed.....12. Belonea Westw.
Abdomen with the first segment longer than the three following, the third produced into a sharp triangular point at the middle; antennæ 9-jointed.....13. Cameronella D. T.
= Panthalis Cameron

4. Abdomen oblong or long-ovate; parapsidal furrows only slightly indicated anteriorly; fifth segment nearly as long as the first four abdominal segments united, the second and third together scarcely longer than the fourth, the first and fourth subequal; front wings maculate..... 14. *Ptinobius* Ashm.

5. Wingless species.

Abdomen ovate, ending in a long ovipositor; antennæ 13-jointed, with 3 ring-joints..... 15. *Cea* Hal.

Winged species.

Abdomen as seen from above rotund, compressed or carinate beneath.

Front wings hyaline, the stigmal vein hardly two-thirds the length of the marginal and a little shorter than the postmarginal; metathorax with lateral folds, the spiracles oval-elliptic..... 16. *Tomicobia* Ashm., n. g.

Abdomen conic-ovate, the segments subequal, the ovipositor not exerted.

Front wings with two transverse bands or maculæ; pronotum transverse quadrate, narrowed medially; pedicel not lengthened..... 17. *Chiropachys* Westw.

Front wings without bands or maculæ; pronotum transverse quadrate, but not narrowed medially, and well separated; pedicel much lengthened.

18. *Schizonotus* Ratzb.

Abdomen conic-ovate or conical, the terminal segments tubular, the ovipositor very long.

Last two abdominal segments very slender, tubular.

19. *Thaumasura* Westw.

Last five abdominal segments very slender, tubular.

20. *Solenura* Westw.

6. Mesothoracic furrows complete..... 7

Mesothoracic furrows incomplete, indicated only anteriorly.

Pronotum short, narrowed medially.

Marginal vein thickened, shorter than the postmarginal.

21. *Zapachia* Först.

Marginal vein not thickened.

Abdomen conical, the segments after the first, which is the longest, subequal.

Front wings with one transverse band, the stigmal club large.... 22. *Acrocormus* Först.

Front wings without a band, the stigmal club small..... 23. *Caudonia* Walk.

Pronotum very long, narrowed anteriorly.

Abdomen ovate, shorter than the thorax, the segments subequal, the middle tarsi incrassate.

24. *Notanisis* Walk.

7. Abdomen petiolate..... 8
 Abdomen sessile.
 Abdomen elongate, conically produced or acuminate at apex;
 postmarginal vein well developed.
 Scutellum with a transverse grooved line before tip; head
 with rounded, convex cheeks.
 Pronotum large, nearly quadrate.
 25. *Merostenus* Walk.
 (= *Pterolytus* Ratzb.)
 Pronotum transverse.....26. *Trigonoderus* Westw.
 Pronotum very short, visible from above as a fine
 transverse line.
 Metanotum with a sharp median carina; an-
 tennæ 13-jointed; middle tibiæ normal.
 27. *Anoglyphis* Först.
 Metanotum short; antennæ 14-jointed; mid-
 dle tibiæ much lengthened.
 28. *Macromesus* Walk.
 Scutellum without a transverse grooved line before tip;
 head triangular, narrowed anteriorly.
 Middle tibiæ not dilated at apex.
 29. *Platygerrhus* Thoms.
 Middle tibiæ dilated at apex, their tarsi broad at
 base.....30. *Pegopus* Först.
 = *Prosopon* Walk.
 Abdomen short, broadly oval, flat above, convex beneath.
 Body entirely covered with rather dense white, scale-like
 hairs; front wings bare with the postmarginal vein
 wanting, the stigmal vein angularly bent and ending in a
 small subrotund knob.....31. *Eutrichosoma* Ashm. n. g.
 8. Scutellum without a transverse grooved line before the tip.
 32. *Photismus* Thoms.

Males.

- Anterior femora less distinctly swollen and not excised dentate be-
 neath. 5
 Anterior femora much swollen or excised dentate beneath.
 Pronotum not much narrowed, and always wider than long.... 2
 Pronotum much narrowed and lengthened, longer than wide.
 Front femora greatly swollen, but not excised dentate be-
 neath; abdomen clavate, depressed..7. *Heydenia* Först.
 Front femora much swollen, and excised dentate beneath.
 8. *Lycisca* DeRomand.
 2. Eyes bare..... 4
 Eyes pubescent.
 Abdomen carinate along the sides.....9. *Epistenia* Westw.

- Abdomen not carinate along the sides, normal.
- Labrum inconspicuous or hidden..... 3
- Labrum conspicuous.
- Metathorax with a median carina, the spiracles large, oblong or oval; flagellum subclavate, densely hairy, the joints of funicle wider than long.
10. *Cleonymus* Latr.
- Metathorax without a median carina, the spiracles small, rounded, flagellum long, filiform, densely hairy, the joints of funicle long.
11. *Micradelus* Walk.
3. Front wings bifasciate or maculate.
- Marginal vein slender, about twice as long as the stigmal; pronotum not short, the metathorax with a median carina, the head lenticular, much wider than thorax.
14. *Ptinobius* Ashm.
4. Front wings bifasciate.
- Marginal vein not longer than the stigmal, the latter long, strongly clavate; pronotum short, transverse, slightly narrowed, the metathorax with a short median keel, the spiracles elliptic, the head transverse; pedicel shorter than the first joint of funicle. 17. *Chiropachys* Westw.
- Front wings hyaline, not fasciate.
- Marginal vein longer than the stigmal, the latter not especially long, ending in a small knob; pronotum large, subquadrate, well separated..... 18. *Schizonotus* Ratzb.
5. Mesothoracic furrows complete..... 6
- Mesothoracic furrows incomplete or indicated only anteriorly.
- Pronotum short, narrowed medially.
- Marginal vein thickened, shorter than the postmarginal.
21. *Zapachia* Först.
- Marginal vein usually not thickened.
- Stigmal club very large..... *Acrocormus* Först.
- Stigmal club small..... 23. *Caudonia* Walk.
- Pronotum long, narrowed anteriorly..... 24. *Notanisus* Walk.
6. Abdomen petiolate..... 8
- Abdomen sessile.
- Scutellum without a transverse grooved line before tip..... 7
- Scutellum with a transverse grooved line before tip.
- Pronotum large, nearly quadrate.... 25. *Merostenus* Walk.
- = *Pterolytus* Ratzb.
- Pronotum transverse, but still not very short.
26. *Trigonoderus* Westw.
- Pronotum very short, visible from above as a fine transverse line.

Metanotum not short, smooth, with a sharp median carina; antennæ 13-jointed.

27. Anoglyphis Först.

Metanotum very short, closely punctate; antennæ 14-jointed.....Macromesus Walk.

7. Postmarginal vein well developed; body not clothed with scale-like hairs.

Middle tibiæ not dilated at apex..... 29. Platygerrhus Thoms.

Middle tibiæ dilated at apex, the tarsi much thickened at base.

30. Pegopus Först.

= Prosopon Walk.

Postmarginal vein entirely wanting; body clothed with dense, scale-like white hairs.

Metathorax very short, abrupt, without median carina; head transverse, antero-posteriorly thin; antennæ 13-jointed, the joints of funicle transverse, subpetiolate, pilose.

31. Eutrichosoma Ashm., n. g.

8. Scutellum without a transverse grooved line before tip.

32. Photismus Thoms.

SUBFAMILY III.—PELECINELLINÆ.

This subfamily is represented by a single genus, *Pelecinnella* Westwood, readily recognized by the characters given in my table of the subfamilies. See also my paper entitled "On the genus *Pelecinnella* Westwood, and its position among the Chalcididæ." Proc. Wash. Ent. Soc., vol. iii, pp. 230-233.

SUBFAMILY IV.—COLOTRECHNINÆ.

This is likewise based upon a single genus, *Colotrechnus* Thomson. It is unknown to me in nature, but evidently from Thomson's description belongs in this family.

Apropos to Mr. Ashmead's paper, Mr. Marlatt spoke of the danger of using published descriptions only as bases for synoptic work on account of the frequent omission of important characters in published descriptions.

—Mr. Howard made some remarks on the discovery of *Euproctis chrysorrhæa* in the vicinity of Boston, which were supplemented in discussion by Mr. Marlatt, who had just returned from Boston, and was able to give details as to the work which had been done against the insect, and as to the measures adopted by the State legislature. The paper was further discussed by Messrs. Schwarz and Matthis.